

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. -- 8. (Canceled)

9. (Currently Amended) ~~Compounds of the formula I according to Claim 1~~ A compound selected from the group consisting of

ethyl 5-isopropyl-4-oxo-7-p-tolyl-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]-pyrimidine-6-carboxylate,

ethyl 5-methyl-4-oxo-7-(3-chlorophenyl)-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

ethyl 5-methyl-4-oxo-7-(2-chlorophenyl)-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

ethyl 5-methyl-4-oxo-7-(2-fluorophenyl)-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

ethyl 5-propyl-4-oxo-7-(2-chlorophenyl)-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

ethyl 5-methyl-4-oxo-7-(4-chlorophenyl)-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

~~ethyl 5-methyl-4-oxo-7-p-tolyl-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,~~

methyl 5-methyl-4-oxo-7-(2-chlorophenyl)-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

methyl 5-methyl-4-oxo-7-phenyl-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

methyl 5-methyl-4-oxo-7-(2-thienyl)-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidine-6-carboxylate,

and pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, wherein the derivatives are salts of the compound or prodrugs of the compound wherein the compound is modified with alkyl or acyl groups, sugars or oligopeptides which are rapidly cleaved in vivo to release the active ingredient compound.

10. -- 12. (Canceled)

13. (Currently Amended) Medicament A medicament composition comprising at least one compound ~~of the formula I according to Claim 1~~ claim 9 and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, and, if desired, excipients and/or adjuvants and at least one excipient or adjuvant.

14. (Currently Amended) ~~Use of compounds of the formula I according to Claim 1 and/or physiologically acceptable salts or solvates thereof~~ A method for the preparation of a medicament for the treatment of a patient suffering from a disease or disorder caused by the PDE VII isozyme in its role in regulating the activation and degranulation of human eosinophils, which comprises bringing a compound of claim 9 into a form suitable for pharmaceutical administration.

15. -- 21. (Canceled)

22. (Currently Amended) Medicament composition comprising at least one compound ~~of the formula I according to Claim 2~~ 1 and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, and at least one further medicament active ingredient.

23. (Currently Amended) ~~Set (kit) consisting of~~ A kit comprising separate packs of
(a) an effective amount of a compound of claim 9 ~~the formula I according to Claim 1~~

~~and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios,~~

and

(b) an effective amount of a further medicament active ingredient.

24. (New) The method of claim 14, wherein the disease or disorder is an allergic disease, asthma, chronic bronchitis, atopic dermatitis, psoriasis or another skin disease, an inflammatory disease, an autoimmune disease including rheumatoid arthritis, multiple sclerosis, Crohn's disease, diabetes mellitus or ulcerative colitis, osteoporosis, a transplant rejection reaction, cachexia, tumour growth or tumour metastasis, sepsis, a memory disorder, atherosclerosis or AIDS.

25. (New) The method of claim 14, wherein the disease or disorder is :
asthma of whatever type, etiology or pathogenesis or asthma selected from the group consisting of atopic asthma, non-atopic asthma, allergic asthma, atopic, bronchial, IgE-mediated asthma, bronchial asthma, essential asthma, true asthma, intrinsic asthma caused by pathophysiologic disturbances, extrinsic asthma caused by environmental factors, essential asthma of unknown or inapparent cause, non-atopic asthma, bronchitic asthma, emphysematous asthma, exercise-induced asthma, occupational asthma, infective asthma caused by bacterial, fungal, protozoal, or viral infection, non-allergic asthma, incipient asthma, and wheezy infant syndrome;

chronic or acute bronchoconstriction, chronic bronchitis, small airway obstruction or emphysema;

an obstructive or inflammatory airway disease of whatever type, etiology or pathogenesis, or an obstructive or inflammatory airway disease selected from the group consisting of asthma, pneumoconiosis, chronic eosinophilic pneumonia, chronic obstructive pulmonary disease (COPD), COPD including chronic bronchitis, pulmonary emphysema or dyspnea associated therewith, COPD that is characterised by irreversible, progressive airway obstruction, adult respiratory distress syndrome (ARDS), and exacerbation of airway hyper-reactivity consequent to other medicament therapy;

pneumoconiosis of whatever type, etiology or pathogenesis, or pneumoconiosis selected from the group consisting of aluminosis or bauxite workers'

disease, anthracosis or miners' asthma, asbestosis or steam-fitters' asthma, chalicosis or flint disease, ptilosis caused by inhaling the dust from ostrich feathers, siderosis caused by the inhalation of iron particles, silicosis or grinders' disease, byssinosis or cotton-dust asthma and talc pneumoconiosis;

bronchitis of whatever type, etiology or pathogenesis, or bronchitis selected from the group consisting of acute bronchitis, acute laryngotracheal bronchitis, arachidic bronchitis, catarrhal bronchitis, croupus bronchitis, dry bronchitis, infectious asthmatic bronchitis, productive bronchitis, staphylococcus or streptococcal bronchitis and vesicular bronchitis;

bronchiectasis of whatever type, etiology or pathogenesis, or bronchiectasis selected from the group consisting of cylindric bronchiectasis, sacculated bronchiectasis, fusiform bronchiectasis, capillary bronchiectasis, cystic bronchiectasis, dry bronchiectasis and follicular bronchiectasis;

seasonal allergic rhinitis, or perennial allergic rhinitis, or sinusitis of whatever type, etiology or pathogenesis, or sinusitis selected from the group consisting of purulent or nonpurulent sinusitis, acute or chronic sinusitis, and ethmoid, frontal, maxillary, or sphenoid sinusitis;

rheumatoid arthritis of whatever type, etiology or pathogenesis, or rheumatoid arthritis selected from the group consisting of acute arthritis, acute gouty arthritis, chronic inflammatory arthritis, degenerative arthritis, infectious arthritis, Lyme arthritis, proliferative arthritis, psoriatic arthritis and vertebral arthritis;

gout, and fever and pain associated with inflammation;

an eosinophil-related pathological disorder of whatever type, etiology or pathogenesis, or an eosinophil-related pathological disorder selected from the group consisting of eosinophilia, pulmonary infiltration eosinophilia, Loeffler's syndrome, chronic eosinophilic pneumonia, tropical pulmonary eosinophilia, bronchopneumonic aspergillosis, aspergilloma, granulomas containing eosinophils, allergic granulomatous angiitis or Churg-Strauss syndrome, polyarteritis nodosa (PAN) and systemic necrotising vasculitis;

atopic dermatitis, or allergic dermatitis, or allergic or atopic eczema;

urticaria of whatever type, etiology or pathogenesis, or urticaria selected from the group consisting of immune-mediated urticaria, complement-mediated urticaria,

urticariogenic material-induced urticaria, physical stimulus-induced urticaria, stress-induced urticaria, idiopathic urticaria, acute urticaria, chronic urticaria, angioedema, cholinergic urticaria, cold urticaria in the autosomal dominant form or in the acquired form, contact urticaria, giant urticaria and papular urticaria;

conjunctivitis of whatever type, etiology or pathogenesis, or conjunctivitis selected from the group consisting of actinic conjunctivitis, acute catarrhal conjunctivitis, acute contagious conjunctivitis, allergic conjunctivitis, atopic conjunctivitis, chronic catarrhal conjunctivitis, purulent conjunctivitis and vernal conjunctivitis;

uveitis of whatever type, etiology or pathogenesis, or uveitis selected from the group consisting of inflammation of all or part of the uvea, anterior uveitis, iritis, cyclitis, iridocyclitis, granulomatous uveitis, nongranulomatous uveitis, phacoantigenic uveitis, posterior uveitis, choroiditis and chorioretinitis;

psoriasis;

multiple sclerosis of whatever type, etiology or pathogenesis, or multiple sclerosis selected from the group consisting of primary progressive multiple sclerosis and relapsing remitting multiple sclerosis;

autoimmune/inflammatory diseases of whatever type, etiology or pathogenesis, or an autoimmune/inflammatory disease selected from the group consisting of autoimmune hematological disorders, hemolytic anaemia, aplastic anaemia, pure red cell anaemia, idiopathic thrombocytopenic purpura, systemic lupus erythematosus, polychondritis, scleroma, Wegner's granulomatosis, dermatomyositis, chronic active hepatitis, myasthenia gravis, Stevens-Johnson syndrome, idiopathic sprue, autoimmune inflammatory bowel diseases, ulcerative colitis, Crohn's disease, endocrinopathy, Grave's disease, sarcoidosis, alveolitis, chronic hypersensitivity pneumonitis, primary biliary cirrhosis, juvenile diabetes or diabetes mellitus type 1, anterior uveitis, granulomatous or posterior uveitis, keratoconjunctivitis sicca, epidemic keratoconjunctivitis, diffuse interstitial pulmonary fibrosis or interstitial lung fibrosis, idiopathic pulmonary fibrosis, cystic fibrosis, psoriatic arthritis, glomerulonephritis with and without nephrotic syndrome, acute glomerulonephritis, idiopathic nephrotic syndrome, minimal change nephropathy, inflammatory/ hyperproliferative skin diseases, psoriasis, atopic dermatitis, contact dermatitis, allergic contact dermatitis, benign familial pemphigus, pemphigus erythematosus, pemphigus foliaceus and pemphigus vulgaris;

foreign transplant rejection following organ transplantation;

inflammatory bowel disease (IBD) of whatever type, etiology or pathogenesis, or inflammatory bowel disease selected from the group consisting of ulcerative colitis (UC), collagenous colitis, colitis polyposa, transmural colitis and Crohn's disease (CD);

septic shock of whatever type, etiology or pathogenesis, or septic shock selected from the group consisting of renal failure, acute renal failure, cachexia, malarial cachexia, hypophysial cachexia, uremic cachexia, cardiac cachexia, cachexia suprarenalis or Addison's disease, cancerous cachexia, and cachexia as a consequence of infection by the human immunodeficiency virus (HIV);

liver damage;

pulmonary hypertension and hypoxia-induced pulmonary hypertension;

a bone loss disease, primary osteoporosis and secondary osteoporosis;

a pathological disorder of the central nervous system of whatever type, etiology or pathogenesis, or a pathological disorder of the central nervous system selected from the group consisting of depression, Parkinson's disease, learning and memory impairment, tardive dyskinesia, drug dependence, arteriosclerotic dementia, and dementias that accompany Huntington's chorea, Wilson's disease, paralysis agitans and thalamic atrophies;

an viral infection where the virus increases the production of TNF- α in its host and where the virus is sensitive to up-regulation of TNF- α in the host so that their replication or other vital activities are adversely affected, including viruses selected from the group consisting of HIV-1, HIV-2 and HIV-3, cytomegalovirus, CMV, influenza, adenoviruses and Herpes viruses, including Herpes zoster and Herpes simplex;

a yeast or fungus infection, where the yeasts and fungi are sensitive to up-regulation by TNF- α or elicit TNF- α production in their host, for example fungal meningitis;

ischemia-reperfusion damage, autoimmune diabetes, retinal autoimmunity, chronic lymphocytic leukemia, HIV infections, lupus erythematosus, kidney and ureter disease, urogenital and gastrointestinal disorders and prostate diseases.

26. (New) The method of claim 14, wherein the disease or disorder is: (1) an inflammatory disease or condition selected from joint inflammation, rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis, inflammatory bowel disease, ulcerative colitis, chronic glomerulonephritis, dermatitis and Crohn's disease; (2) a respiratory disease or condition selected from asthma, acute respiratory distress syndrome, chronic pulmonary inflammatory disease, bronchitis, chronic obstructive airway disease and silicosis; (3) an infectious disease or condition selected from sepsis, septic shock, endotoxic shock, Gram-negative sepsis, toxic shock syndrome, fever and myalgias due to bacterial, viral or fungal infection, and influenza; (4) an immune disease or condition selected from immune diabetes, systemic lupus erythematosus, GvH reaction, rejection of foreign transplants, multiple sclerosis, psoriasis and allergic rhinitis; and (5) another disease or conditions selected from a bone absorption disease; reperfusion damage; cachexia secondary to infection or malignancy; cachexia secondary to human acquired immune deficiency syndrome (AIDS), human immunodeficiency virus (HIV) infection, or AIDS related complex (ARC); keloid formation; scar tissue formation; type 1 diabetes mellitus; and leukaemia.

27. (New) The method of claim 14, wherein the disease or disorder is a myocardial disease.

28. (New) The method of claim 14, wherein the disease or disorder is a myocardial disease having inflammatory and immunological properties.

29. (New) The method of claim 28, wherein the disease or disorder is coronary heart disease, reversible or irreversible myocardial ischaemia/reperfusion damage, acute or chronic heart failure or restenosis.

30. (New) A composition comprising a compound of claim 9 together with one or more other compounds selected from the following groups:

(a) leukotriene biosynthesis inhibitors: 5-lipoxygenase (5-LO) inhibitors and 5-lipoxygenase activating protein (FLAP) antagonists selected from the group consisting of

zileuton, ABT-761, fenleuton, tepoxalin, Abbott-79175, Abbott-85761, N-(5-substituted) thiophene-2-alkylsulfonamides, 2,6-di-tert-butylphenol hydrazones, Zeneca ZD-2138, SB-210661, the pyridinyl-substituted 2-cyanonaphthafene compound L-739,010, the 2-cyanoquinoline compound L-746,530, the indole and quinoline compounds MK-591, MK-886 and BAY x 1005;

(b) receptor antagonists for the leukotrienes LTB₄, LTC₄, LTD and LTE₄ selected from the group consisting of the phenothiazin-3-one compound L-651,392, the amidino compound CGS-25019c, the benzoxaolamine compound ontazolast, the benzenecarboximidamide compound BIIL 284/260, the compounds zafirlukast, ablukast, montelukast, pranlukast, verlukast (MK-679), RG-12525, Ro-245913, iralukast (CGP 45715A) and BAY x 7195;

(c) PDE IV or VII inhibitors;

(d) 5-lipoxygenase (5-LO) inhibitors; antagonists of 5-lipoxygenase activating protein (FLAP);

(e) dual inhibitors of 5-lipoxygenase (5-LO) and antagonists of platelet activating factor (PAF);

(f) leukotriene antagonists (LTRAs), including LTB₄, LTC₄, LTD₄ and LTE₄ antagonists;

(g) antihistamine H₁ receptor antagonists, including cetirizine, loratadine, desloratadine, fexofenadine, astemizole, azelastine and chlorpheniramine;

(h) gastroprotective H₂ receptor antagonists;

(i) α_1 - and α_2 -adrenoceptor agonist vasoconstrictor sympathomimetic agents administered orally or topically for decongestant use, selected from the group consisting

of propylhexedrine, phenylephrine, phenylpropanolamine, pseudoephedrine, naphazoline hydrochloride, oxymetazoline hydrochloride, tetrahydrozoline hydrochloride, xylometazoline hydrochloride and ethylnorepinephrine hydrochloride;

(j) α_1 - and α_2 -adrenoceptor agonists as listed above under (i) in combination with one or more inhibitors of 5-lipoxygenase (5-LO) as listed above under (a);

(k) anticholinergic agents, including ipratropium bromide, tiotropium bromide, oxitropium bromide, pirzepine and telenzepine;

(l) α_1 - to α_4 -adrenoceptor agonists selected from the group consisting of metaproterenol, isoproterenol, isoprenaline, albuterol, salbutamol, formoterol, salmeterol, terbutaline, orciprenaline, bitolterol mesylate and pirbuterol;

(m) theophylline and aminophylline;

(n) sodium cromoglycate;

(o) muscarinic receptor (M1, M2 and M3) antagonists;

(p) COX-1 inhibitors (NSAIDs) and nitric oxide NSAIDs

(q) the COX-2 selective inhibitor rofecoxib;

(r) insulin-like growth factor type I (IGF-1) mimetics;

(s) ciclesonide;

(t) inhalation glucocorticoids with reduced systemic side effects selected from the group consisting of prednisone, prednisolone, flunisolide, triamcinolone acetonide,

beclomethasone dipropionate, budesonide, fluticasone propionate and mometasone furoate;

(u) tryptase inhibitors;

(v) platelet activating factor (PAF) antagonists;

(w) monoclonal antibodies against endogenous inflammatory entities;

(x) IPL 576;

(y) antitumour necrosis factor (TNF α) agents selected from the group consisting of etanercept, infliximab and D2E7;

(z) DMARDs selected from the group consisting of leflunomide;

(aa) TCR peptides;

(bb) interleukin converting enzyme (ICE) inhibitors;

(cc) IMPDH inhibitors;

(dd) adhesion molecule inhibitors, including VLA-4 antagonists;

(ee) cathepsins;

(ff) MAP kinase inhibitors;

(gg) glucose 6-phosphate dehydrogenase inhibitors;

(hh) kinin B₁ and B₂ receptor antagonists;

- (ii) gold in the form of an aurothio group together with various hydrophilic groups;
- (jj) immunosuppressive agents selected from the group consisting of cyclosporine, azathioprine and methotrexate;
- (kk) anti-gout agents selected from the group consisting of colchicines;
- (ll) xanthine oxidase inhibitors selected from the group consisting of allopurinol;
- (mm) uricosuric agents selected from the group consisting of probenecid, sulfinpyrazone and benzbromarone;
- (nn) antineoplastic agents, which are antimitotic medicaments selected from the group consisting of vinblastine and vincristine;
- (oo) agents for promoting growth hormone secretion;
- (pp) inhibitors of matrix metalloproteases (MMPs) selected from the group consisting of stromelysins, collagenases, gelatinases, aggrecanase, collagenase-1 (MMP-1), collagenase-2 (MMP-8), collagenase-3 (MMP-13), stromelysin-1 (MMP-3), stromelysin-2 (MMP-10) and stromelysin-3 (MMP-11);
- (qq) transforming growth factor (TGF β);
- (rr) platelet-derived growth factor (PDGF);
- (ss) fibroblast growth factor selected from the group consisting of basic fibroblast growth factor (bFGF);
- (tt) granulocyte macrophage colony stimulating factor (GM-CSF);

(uu) capsaicin;

(vv) tachykinin NK₁ and NK₃ receptor antagonists selected from the group consisting of NKP-608C, SB233412 (talnetant) and D-4418;

(ww) elastase inhibitors selected from the group consisting of UT-77 and ZD-0892;

and

(xx) adenosine A2a receptor agonists.

31. (New) A method for treating a disease or disorder which can be treated by compounds having PDE VII-inhibitory activity, which comprises administering a compound of claim 9 to a patient.

32. (New) A method for treating an allergic disease, asthma, chronic bronchitis, atopic dermatitis, psoriasis or another skin disease, an inflammatory disease, an autoimmune disease including rheumatoid arthritis, multiple sclerosis, Crohn's disease, diabetes mellitus or ulcerative colitis, osteoporosis, a transplant rejection reaction, cachexia, tumour growth or tumour metastasis, sepsis, a memory disorder, atherosclerosis or AIDS, which comprises administering a compound of claim 9 to a patient.

33. (New) A method for treating coronary heart disease, reversible or irreversible myocardial ischaemia/reperfusion damage, acute or chronic heart failure or restenosis, which comprises administering a compound of claim 9 to a patient.